

Amendments to the Claims:

Please cancel claims 9, 11-14, 16-19, and 21-23.

Claims 1-8, 10, 15, and 20 are pending.

Please amend claims 1, 10, 15 and 20 as follows:

1. (Amended) A screening method for determining ion channel modulating activity of a test substance having potential for such modulating activity, which comprises the steps of:
  - (i) contacting a host cell with the test substance, said host cell expressing a peptide, polypeptide or protein in the plasma membrane [of a host cell], said peptide, polypeptide or protein having ion channel activity when expressed as a heterologous protein in the plasma membrane of the host cell; and
  - [(ii) contacting said host cell with the test substance; and]
  - [(iii)](ii) determining changes to the ion channel activity of said heterologous protein induced by the test substance, wherein the changes to the ion channel activity of the heterologous protein induced by the test substance are determined by detecting the effect of the test substance on changes in net movement across the plasma membrane of the host cell of small cellular metabolite molecules which do not directly permeate the ion channel formed by said heterologous protein.
10. (Amended) [The method of claim 9]A screening method for determining ion channel modulating activity of a test substance having potential for such modulating activity, which comprises the steps of:
  - (i) contacting a host cell with the test substance, said host cell expressing a peptide, polypeptide or protein in the plasma membrane, said peptide, polypeptide or

protein having ion channel activity when expressed as a heterologous protein in the plasma membrane of the host cell; and

- (ii) determining changes to the ion channel activity of said heterologous protein induced by the test substance, wherein the changes to the ion channel activity of the heterologous protein induced by the test substance are determined by detecting the effect of the test substance on changes in permeability of the plasma membrane of the host cell to small cellular metabolite molecules, wherein said heterologous protein having ion channel activity is the HIV-1 Vpu integral membrane protein,

wherein the effect of the test substance on changes in the permeability of the plasma membrane to proline or adenine molecules is detected.

15. (Amended) [The method of claim 14 ]A screening method for determining ion channel modulating activity of a test substance having potential for such modulating activity, which comprises the steps of:

- (i) contacting a host cell with the test substance, said host cell expressing HIV-1 Vpu integral membrane protein in the plasma membrane, said protein having ion channel activity when expressed as a heterologous protein in the plasma membrane of the host cell; and
- (ii) determining changes to the ion channel activity of said heterologous protein induced by the test substance, wherein the changes to the ion channel activity of the heterologous protein induced by the test substance are determined by detecting the effect of the test substance on changes in net movement across the plasma membrane of the host cell of small cellular metabolite molecules,

wherein the effect of the test substance on changes in the movement of proline or adenine molecules is detected.

20. (Amended) [The method of claim 19 ]A screening method for determining ion channel modulating activity of a test substance having potential for such modulating activity, which comprises the steps of:

- (i) contacting a host cell with the test substance, said host cell expressing HIV-1 Vpu integral membrane protein in the plasma membrane, said protein having ion channel activity when expressed as a heterologous protein in the plasma membrane of the host cell; and
- (ii) determining changes to the ion channel activity of said heterologous protein induced by the test substance,

wherein the effect of the test substance on changes in the permeability of the plasma membrane to proline or adenine molecules is detected.